



CIB NEWS ARTICLE

International Council for Research and Innovation
in Building and Construction

Providing a global network for international exchange and cooperation in research and innovation in building and construction, in support of an improved building process and of improved performance of the built environment.

March 2011

Forthcoming Meeting

W119 - Customised Industrial Construction

Kick-off Meeting for CIB and IAARC Members

Seoul, Korea, 1 July 2011

Introduction

In February 2011 the Joint CIB-IAARC Commission on "Customised Industrial Construction" was established (see news article [here](#)). It will now commence its work.

Kick-off Meeting

The first W119 Meeting will take place

- Korea, Seoul
- Friday 1st July
- 13:30 - 15:30 at Imperial Hotel Seoul

The meeting will take place as part of the CIB Co-sponsored 28th ISARC 2011 Conference. This was announced in a separate news article [here](#).

The meeting is open to both CIB and IAARC Members and to other attendees at ISARC2011.

The W119 Work programme will be presented and especially for the commission case studies a first start will be made.

Background

Working Commission W119, a joint activity between CIB and IAARC is welcoming researchers, practitioners and government officials who are interested in improving the performance of the construction industry in the area of industrialized adaptable and affordable housing for our societies.

Future markets will require a just-in-time response in terms of adaptive production systems. Customized industrial construction can achieve this by frontier engineering sciences, which generate innovations. These innovations are driven and amplified by globalization, closed loop utilization of resources, transformation of technological potentials as well as environmental and demographic challenges.

The Working Commission "Customized Industrial Construction" will start its first project on "Industrialized adaptable and affordable Housing". It is intending to contribute to the two following challenging problems of the construction industry:

- In the developed countries, the wages for workmen are generally high even in the construction sector. Therefore the use of high performance mechanized, automated construction is required to ensure sustainable construction as well as a decrease of costs for investment and for maintenance of housing and infrastructures. In developed countries, the use of industrialized processes in construction aims at homogenizing the quality and decreasing the number of labour hours per unit fabricated.
- In the high growth countries, there is a great need to produce a vast number of affordable, adaptable and sustainable robust housing and infrastructures in a very short period of time due to very rapidly growing populations and vast immigration to cities and mega cities. In high growth countries, industrialized processes in construction aim at employing a large number of workmen. In these countries, industrialized processes in construction aim at ensuring process and product quality, which could up to present not be guaranteed by the employment of a huge number of unskilled labor. Industrialized standardized controlled construction processes and management will improve quality, reduce fault occurrence and increase the output due to higher productivity.

In this regard the coordinators are very happy to integrate these two different research streams in a symbiotic interactive approach in this working commission. On the one hand, there is the research area that focuses on the use of high mechanized and automated equipment and processes with low numbers of workmen per produced unit. On the other hand, there is the research area of industrialization, which examines the use of high numbers of workmen, which

consequently is linked with a lower level of mechanization. Both streams of industrialization represent different stages of development. In both stages of industrialization development, however, the generic development approach for the interactive design of structures and buildings and the production planning for industrialized construction processes is required. Therefore both streams of industrialization development will interact synergetically in regard to process development, management, resource and investment planning and social aspects.

In all stages of development, industrialization requires a paradigm change from the intuitive handicraft towards systematically planned and controlled industrialized processes. Therefore industrialization requires production planning and controlling systems and processes as well as process orientated management skills.

The new W119 Customized Industrial Construction is tailored to offer solutions to the above mentioned challenges. The future construction sector will expand to new business fields by applying appropriate technologies from various disciplines. Its success will depend on its innovation leap ability within the complete value chain in terms of artifactual design, engineering and producing the built environment by embedding appropriate industrialized on site technologies with ICT, automation, robotics and services under consideration of the economic and social impact. The W119 CIC approach will create new markets, qualifications, skills and professions for ubiquitous implementation.

The Commission Coordinators invite all specialized researchers and practitioners to develop new robotic systems, system integration concepts for design and production management concepts as well as production processes for different stages of industrialization. We would like to contribute to solutions to improve the efficiency in construction taking into consideration the social-technical environment of countries with a different development stage. With our contributions, we intend to pave the way to better working conditions, improved quality and healthier societies.

Additional Information

For further information about CIB W119 please contact the Coordinators: Gerhard Girmscheid girmscheid@ibi.baug.ethz.ch and Thomas Bock thomas.bock@br2.ar.tum.de.



You can find more information on the activities of CIB W119 in the CIB online Database "Commissions": see [here](#). In the shown search engine type "W119" in the field "Commission number" and press "Find records".

